the *Pœcilia surinamensis*, Val., in the 'Annales des Sciences Naturelles,' 3rd series, vol. i. p. 313. plate 17, to which my own observations, except with reference to the earlier changes of the embryo, will add comparatively little, when published. That the fish observed by Dr. Dowler is the same as that I had an opportunity of investigating, his description shows very plainly. There is only one fact to which I would again call attention, though I have already noticed it before, that the genus *Mollienesia* of Lesueur is founded upon the male of the same species he has described as *Pœcilia multilineata*. There cannot be the slightest doubt about it, for I have repeatedly seen them copulate; and among a large number of specimens examined, all those that answer to the description of *Mollienesia latipinna* are males, and all those corresponding to the description of *Pœcilia multilineata* are females. There are several species of this family much smaller than this *Pœcilia multilineata*; indeed, it contains the smallest representatives of the great type of Vertebrates. My *Heterandria formosa*, for instance, when full-grown, is not quite an inch long, and does not weigh more than five grains. An adult male weighed 33½ milligrammes.

L. Agassiz.

Cambridge, U. S. Aug. 22, 1854.

XIX.—*On the anomalous Oyster-Shell described in the 'Annals' for February.* By Dr. J. E. Gray.

To the Editors of the Annals of Natural History.

Gentlemen,

I have received an explanation of the anomalous Oyster-shell described by me in your last Number, from my friend Dr. Gray, and as it appears to me wholly satisfactory, I forward his note, for the benefit of those of your readers who, like myself, may not have been aware that similar monstrosities, as I am informed by him, are by no means of unfrequent occurrence.

Your obedient servant,

George Busk.

"My dear Busk,

"I have little doubt the shell you described in the last Number of the 'Annals' is that of an Oyster (*Ostrea edulis*), growing on the *inside* of a valve of *Pholas candida*. The inside of the shell of that species has markings corresponding to the tubercles and lines on the outer surface, and in the specimen figured these markings are impressed on the outer surface of the Oyster-shell. It further appears, that the shell of the *Pholas* must have been that of a dead specimen, since it had growing upon it a *Mem-*

branipora, or *Flustra*, which is impressed on the outer surface of the Oyster; and thence a further proof is afforded that the *Pholas* was external, and served as a mould to the Oyster-shell, and is not enclosed within its substance.

"Yours truly,

"J. E. Gray."

Greenwich, Feb. 17, 1855.

XX.—*On* Actinophrys Sol. By E. Claparede*.

[With a Plate.]

It can scarcely be doubted that nearly all true Infusoria, that is to say, all animal Infusoria, possess at least an indication of a circulation, by which expression we would refer to the so-called *contractile vesicles*, without however at present deciding as to the kind of circulation, or whether it be a circulation of blood or water. Nevertheless this structure has hitherto remained undiscovered in many Infusoria, apparently of animal nature; in one very pretty animalcule, the *Actinophrys Sol*, especially, it has been overlooked by nearly all observers. As, however, I recently met unexpectedly with a considerable number of this *Actinophrys* in a bottle where I had not previously observed them, I was struck by a peculiar organ possessed by all the individuals, which puzzled me at first, but soon showed itself to be undoubtedly a contractile vesicle placed in a very remarkable position.

Ehrenberg, in describing *Actinophrys Sol* in his great work on the Infusoria, of course endeavoured to discover in it the stomach cells, mouth and anus required by his theory. Accordingly, as might be expected, *Actinophrys* was said to capture animalcules and microscopic plants by means of a proboscis, digest them in connected stomachal cells, and get rid of the indigestible portions through an anal opening. Later observers (Dujardin, Kölliker, &c.) could find nothing of this, and affirmed either that the animal did not eat, or that it converted any part of its body at pleasure into a mouth or an anus. Kölliker, in particular, conjectured that Ehrenberg had seen a process, which would gradually have formed a tentacle, and had taken it for a protrusible proboscis. Nevertheless Ehrenberg's assertions as regards the mouth are by no means groundless; his observations are perfectly correct, but his explanation of them quite inadmissible, as will be seen from what follows.

When seen from above (Pl. VIII. fig. 1), *Actinophrys Sol* ap-

* Abridged from Müller's Archiv for December 1854.